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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.        | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------------|------------------|
| 10/786,206  | 02/25/2004  | John M. Sebastian    | 59541 US002                | 3037             |
| 32692   | 7590        | 10/19/2006           |                            |                  |
| 3M INNOVATIVE PROPERTIES COMPANY<br>PO BOX 33427<br>ST. PAUL, MN 55133-3427 |             |                      |                            |                  |
|   |             |                      | EXAMINER<br>DESAI, ANISH P |                  |
|   |             |                      | ART UNIT                   | PAPER NUMBER     |

1771

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/786,206

Applicant(s)

SEBASTIAN ET AL.

Examiner

Anish Desai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,5-7,11-20,22-24,29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) 23, 24, and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,5-7, 11-20, 22, 29, 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

The applicant's arguments in response to the Office action dated 05/08/06 have been fully considered and are persuasive.

1. Claims 1, 5-7, 11-20, 22, and 30 are pending. Claims 2-4, 8-10, 21, and 25-28 are cancelled. Claims 23,24, and 29 are withdrawn.
2. Objection to claim 21 is moot because claim 21 is cancelled.
3. 112 rejections are withdrawn in view of the present amendment and response (see pages 6-7 of 08/01/06 amendment). However, a new 112 rejection is made to claim 19.
4. All of the art rejections are withdrawn in view of the present amendment and response (see pages 6-15 of 08/01/06 amendment). However, upon further consideration a new ground of rejection is made over Temperante et al. (US 5,804,625) in view of Riswick et al. (US 5,804,519).
5. Regarding claims 23 and 24, the status identifier of these claims should be "Withdrawn-Currently Amended" NOT "Currently Amended". These claims were withdrawn from consideration (see 02/17/06 amendment). Proper correction is required.

### ***Claim Objections***

6. Claims 1, 13, 22, and 30 are objected to because of the following informalities: Claims 1, 22, and 30 recite "thermoplastic polymer layer", it should read "thermoplastic polymer film layer". Claim 13 is missing a period. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 19 recites "hydrophilic surface", there is insufficient antecedent basis for this limitation in the claim. For the purpose of the examination, the examiner is interpreting "hydrophilic surface" as the "first surface" of the "thermoplastic polymer layer".

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 5-7, and 11-14 are rejected under 35 U.S.C. 103(a) as obvious over Temperante et al. (US 5,804,625) in view of Riswick et al. (US 5,804,519).

Temperante teaches durably hydrophilic films (abstract). Further, Temperante discloses multi-layer, aqueous liquid-absorbent articles comprising an aqueous media impervious backing sheet, an aqueous media permeable topsheet, and an aqueous liquid absorbent (i.e. hydrophilic) layer useful for in constructing disposable diapers, wipes, or towels, sanitary napkins etc (column 2, lines 59-67). The aqueous liquid absorbent (i.e. hydrophilic) layer (core) is positioned between the topsheet and the

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backing sheet (column 2, lines 64). Further Temperante teaches that hydrophilic thermoplastic polymers of this invention are useful to replace or supplement the wood pulp fiber web liquid absorbent layer or core typically used in conventional diapers. The hydrophilic polymers of the invention may also be used to input hydrophilicity to the top sheet of such an article where hydrophilicity is desired (column 3, lines 60-66). With respect to claims 1 and 5-7, Temperante discloses a nonionic fluorochemical surfactant with the claimed formula at column 4, lines 36-67 and at column 5, lines 1-43, which is added to the thermoplastic polymers. Regarding claims 13 and 14, Temperante discloses thermoplastic films formed of thermoplastic polymers such as polyamide, polyurethane, and polyolefin (e.g. polypropylene) (abstract and column 1, lines 17-18).

Temperante is silent as to teaching of adhesive layer bonded to the surface of the thermoplastic polymer film and the adhesive layer comprising a nonionic fluorochemical surfactant. Further Temperante is silent as to teaching of adhesive layer comprising 5 to 40 wt% of said surfactant. However, Riswick teaches hot melt adhesive composition comprising nonionic fluorochemical surfactant in the amount of 0.1 to 10 parts by weight per 100 parts adhesive (abstract). The hot melt adhesive of Riswick is useful in laminating applications such as in diapers (column 1, lines 13-15, lines 20-22). Further Riswick teaches a variety of nowoven and tissue applications have been developed which require that the hot melt adhesive demonstrate the ability to transmit the liquid from the nonwoven substrate into the superabsorbent or fluff core substrate. This property is referred to as strike through, is especially important in disposable diaper, sanitary napkin, and bed pad construction where it is desired to draw the

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moisture away from the body and into the absorbent core as quickly as possible after the nonwoven is wetted (column 1, lines 35-43). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the hot melt adhesive of Riswick with the nonionic fluorochemical surfactant in the disclosed amount in the multi-layer, aqueous liquid-absorbent article of Temperante, motivated by the desire to transmit the moisture and liquid away from the body and into the absorbent core.

With respect to the preamble limitation of hydrophilic article exhibiting a water contact angle of less than  $90^\circ$ , it is the examiner's position that the multi-layer, aqueous liquid-absorbent article of Temperante as modified by Riswick necessarily has a water contact angle of less than  $90^\circ$  because like materials have like properties. In the presently claimed invention, the hydrophilic article of the applicant comprises a thermoplastic polymer film layer with an adhesive layer bonded to the thermoplastic polymer film layer. The adhesive layer of the applicant comprises a nonionic fluorochemical surfactant that migrates to the thermoplastic polymer film layer. The multi-layer, aqueous liquid-absorbent article of Temperante as modified by Riswick also comprises thermoplastic film formed of thermoplastic polymer. Further, the thermoplastic film of Temperante as modified by Riswick comprises a nonionic fluorochemical surfactant. Additionally, the multi-layer, aqueous liquid-absorbent article of Temperante as modified by Riswick comprises a hot melt adhesive wherein the hot melt adhesive comprises nonionic fluorochemical surfactant. Therefore, the water contact angle of less than  $90^\circ$  would have been present. Note that reliance upon

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inherency is not improper even though restriction is based on Section 103 instead of Section 102. *In re Skoner*, et al. (CCPA) 186 USPQ 80.

9. Claims 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Temperante et al. (US 5,804,625) in view of Riswick et al. (US 5,804,519) as applied to claim 1 above, and further in view of Johnston et al. (US 5,514,120).

The invention of Temperante as modified by Riswick is previously disclosed. Temperante is silent as to teaching of thermoplastic film layer is patterned and the thermoplastic polymer film layer comprising a microstructure-bearing surface with a plurality of channels that facilitate the directional flow of a liquid disposed thereon. However, Johnston teaches liquid management members for absorbent articles such as meat tray liners, bed pads, baby diapers, sanitary napkins, and adult incontinent pads (Column 1, lines 10-14). The article of Johnston comprises an absorbent core disposed between a topsheet and a backsheet and further comprises a liquid management member that has a microstructure bearing hydrophilic surface with a plurality of channels, which reads on the patterned thermoplastic film layer. The liquid management member is in a sheet form (Column 2, line 37) and promotes rapid directional spreading of liquids (Abstract). The liquid management member of Johnston is formed using thermoplastic polymers (Column 4, lines 41-42). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to create the microstructure-bearing surface with a plurality of channels (patterned thermoplastic film) in the thermoplastic film of Temperante, motivated by the desire to

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promote rapid direction spreading of liquids when the thermoplastic film of Temperante is used in the multi-layer, aqueous liquid-absorbent article.

10. Claims 1,13-17, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goeman et al. (US 2002/005874A1) in view of Bradley et al. (US 2003/0152730A1).

Goeman teaches thermoplastic film comprising a fluorochemical hydrophilicity imparting non-ionic compound (0044). Further, the thermoplastic film of Goeman is coated with pressure sensitive adhesive (0052). Additionally, Goeman discloses that the coated films were covered with siliconized paper release liner (0061). Further, regarding claims 13-15, Goeman teaches thermoplastic polymers in paragraph 0022, which read on claims 13-15. Regarding claim 30, although Goeman does not explicitly teach the Tg of the adhesive layer and thermoplastic polymer layer are at or below 0°C, it is reasonable to presume that the Tg of the pressure sensitive adhesive and thermoplastic film of Goeman is at or below 0°C because like materials have like properties. Goeman and the applicant disclose essentially same materials for the thermoplastic films and adhesive (paragraph 0022 and 0052 of Goeman and pages 6 and 19 of the specification), thus the presently claimed properties of Tg of the adhesive layer and thermoplastic polymer layer are at or below 0°C would have been present.

Goeman is silent as to teaching of an adhesive layer comprising a nonionic fluorochemical surfactant. However, Bradley teaches a multilayer pressure sensitive correction tape wherein the pressure sensitive adhesive layer comprises a nonionic fluoroaliphatic polymeric ester surfactant (0047). Thus, it would have been obvious to



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one having ordinary skill in the art at the time the invention was made to add the nonionic fluoroaliphatic polymeric ester surfactant of Bradley in the pressure sensitive adhesive of Goeman, motivated by the desire to properly wet the surface of the thermoplastic film with the pressure sensitive adhesive.

With respect to the preamble limitation of hydrophilic article exhibiting a water contact angle of less than  $90^\circ$ , it is the examiner's position that the pressure sensitive adhesive coated thermoplastic film of Goeman as modified by Bradley necessarily has a water contact angle of less than  $90^\circ$ , because like materials have like properties. In the presently claimed invention, the hydrophilic article of the applicant comprises a thermoplastic polymer film layer with an adhesive layer bonded to the thermoplastic polymer film layer. The adhesive layer of the applicant comprises a nonionic fluorochemical surfactant that migrates to the thermoplastic polymer film layer. The pressure sensitive adhesive coated thermoplastic film of Goeman as modified by Bradley comprises a thermoplastic film comprising a nonionic fluorochemical surfactant and a pressure sensitive adhesive layer, wherein the pressure sensitive adhesive layer comprises nonionic fluoroaliphatic surfactant. Thus, the water contact angle of less than  $90^\circ$  would have been present. Note that reliance upon inherency is not improper even though restriction is based on Section 103 instead of Section 102. *In re Skoner*, et al. (CCPA) 186 USPQ 80.

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11. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goeman et al. (US 2002/005874A1) in view of Bradley et al. (US 2003/0152730A1) as applied to claim 1 above, and further in view of Xie et al. (US 6,503,620B1).

The invention of Goeman as modified by Bradley is previously disclosed. Goeman is silent as to teaching of at least a portion of the hydrophilic surface with an image pattern of ink and ink is aqueous ink as claimed. However, Xie teaches multilayer pressure sensitive adhesive (PSA) labels. The facestock of Xie can be made from a sheet of plastic, which can be printed with ink (column 16, lines 9-10). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to print on the thermoplastic film of Goeman with the ink, motivated by the desire to enhance the esthetics of thermoplastic film. With respect to the claim limitation of "aqueous ink", it is the examiner's position that in the final product, there would be no water present and all the ink would have been dried, thus in absence of any unexpected results it would have been obvious to one having ordinary skill in the art at the time the invention was made to print on the thermoplastic film of Goeman with the ink, motivated by the desire to enhance the esthetics of the thermoplastic film.

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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

APD



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